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<p>(54) Title: ULTRAHIGH BRIGHTNESS CALCINED CLAY PIGMENT, MANUFACTURE AND USE THEREOF</p> <p>(57) Abstract</p> <p>A selected kaolin crude or crude fraction is purified by physical or physical/chemical means, such as froth flotation and/or selective flocculation, to remove discrete particles of TiO₂ and in some cases, discrete iron minerals. The pure (or purified clay) must then be agitated in the presence of water with a particulate grinding media such as, for example, sand, alumina or zirconia beads, to increase the 2 micron content of the kaolin. An intermediate ground product that contains a substantial weight percentage of particles finer than 1 micron is generated as a result of grinding. The particles finer than 1 micron in the ground kaolin also include those particles in the previously pure or purified kaolin that were present in the naturally occurring clay. A pulp of the ground clay is then fractionated to remove particles larger than 2 microns, e.g., to remove at least 95 %, preferably at 100 % by weight, of the particles larger than 2 microns, while minimizing the removal of particles finer than 1 micron. The resulting fine particles size fraction is then treated by conventional series of steps, i.e., optional bleaching, drying, pulverization, calcination and repulverization to produce a low abrasion, ultrahigh brightness (typically 96 %) calcined kaolin pigment.</p>			

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(54) Title: POLYMER/CLAY NANOCOMPOSITE AND PROCESS FOR MAKING SAME**(57) Abstract**

This invention relates to a polymer-clay nanocomposite comprising (i) a melt-processible matrix polymer, and incorporated therein (ii) a clay-organic cation intercalate comprising a layered clay material intercalated with at least two organic cations, wherein at least one organic cation comprises ligands each having 7 or less carbons and at least one organic cation comprises at least one ligand having 12 or more carbons. The invention also relates to a process for preparing a nanocomposite and articles produced from a nanocomposite.